INTEGRATED MANAGEMENT SYSTEMS BETWEEN EVOLUTIONARY ROUTES AND MANAGEMENT PROCESS

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Abstract

The evolution of the global competitive system has prompted companies on the necessity of an integrated managerial system. In this view, the promotion and application of integrated managerial systems (IMS) represent the natural evolution of a company's strategy, as well as a choice that can no longer be postponed. The development of integrated management systems allows a complete analysis of environmental aspect and above all allows the improvement of business performance by optimizing resources. As it is explained the correct application of IMS allows to highlight inefficiencies and weaknesses and plan improvements and corrective actions. The aim of the work is to offer a series of technical and conceptual tools to highlight the most critical aspects in order to guide decision-making process for the development of procedures, of human resources management and management controls, necessary to meet standards and to facilitate the development of a culture of quality, safety, and environment.

Keywords: Integrated Management, IMS, Management Process, Quality Management System, QMS, Strategic View

1. INTRODUCTION

In recent years the needs of integrated management systems (IMS) have increased rapidly because many companies have regulatory overlaps from industries, trade associations and certification requirements that can consume significant resources and attention. Identifying the synergies between these performance improvement systems will help ensure safe and reliable operations, simplify procedures and have effective system control supporting regulatory and compliance requirements. Organizations, while dealing with the institutionalization process, seek the way to assure their long-term survival. With this aims, firms try to further the economic-managerial dimension in order to turn themselves into an institution capable of satisfying the need and the expectations of all their stakeholder groups (Carmona et al., 2015).

The aim is to outline how quality, environmental, occupational health and safety management systems must ensure that these aspects/issues are a natural part of all business processes, including sale and purchase of orders, production, and management of projects. Management systems support the process of knowledge and respect of the needs, technical requirements and stakeholder's expectations, having a good attitude to quality, environment, health, and safety at work in the daily routine. As a driver of strategic value, IMS application is essential to implement new processes and technologies; these management systems, including certifications, provide a basis for continuously improving, meeting customer and legal regulatory requirements. Management must ensure that cultures, policies and management systems support long-term strategy and sustainability, including the proper resources allocation. The growing market value of a company remains the main concern of the management, as well as of the shareholders. Implementing IMS is not low-priced either, but the positive effects on clients, management, employees and shareholders are considerable (Ionuescu et al., 2018).

Recent contributions (Salomone, 2008; Griffith & Bhutto, 2008) show the strong cause-effect relationship between total quality (TQ) and integrated total quality (ITQ) but also as simple and effective environmental practices can perpetuate environmental protection and provide immediate economic benefits for companies. In this view, the aim of the work was to provide an overview of the possible approaches and developments of the subject; starting from the main contributions on the

field has shown the evolutionary framework and the margins for improvement available for the management. In this sense, the adoption of this management tool is deemed not to be postponed.

While management and quality specialists plan for certain effects of a system's introduction, unintended use of the system can play a central role (Rohde & Wulf, 2018). To meet the demands of increasing business value it has been suggested that resource management is adapted or changed such that it becomes aligned with sustainable development. That sustainable development is also a complex problem illustrated by the concept of the energy-material-human resources nexus (Keairns et al., 2016). The development of IMS in organizations faces an iterative challenge, the existence of IMS allows for new work practices and these practices raise new requirements for technological support. Due to the scale and complexity of sustainable resource management, the kind of change that it requires can be described as systemic and radical change (Adams et al., 2012).

In the following, we want to present the framework of IMS and describe their application as the result of the latest data available. In this perspective, IMS are becoming increasingly important, but experiences can vary between regions and companies of different sizes and sectors; this paper was developed to investigate the potential of integration starting from an analysis of common variables such as motivations, obstacles, driving forces and external pressures that companies encounter when implementing integrated management systems.

2. BACKGROUND AND CONCEPTUAL DEVELOPMENT OF ENTERPRISE SUSTAINABILITY AND IMS: THEORETICAL PERSPECTIVE AND INTERRELATION

Since the 1990s, regulations have been introduced in almost all industrialized countries requiring a formal process on safety, occupational safety, environmental management, and protection programs. To comply and pursue the objectives set by the regulations with better performance; organizations have implemented the management of quality, health, safety and the environmental quality system (HSE-Q). To survive and succeed in global competition, any company should consider any aspect of their process, including costs, employee engagement and work environment; integrated management is the concept of putting together the single management systems to be structured, organized and implemented as a holistic management system within the same organization (Griffith & Bhutto, 2008).

The integrated company has developed IMS to acquire, save and preserve its resources in an efficient and effective way. In many companies, there are quality, health, safety, and environmental management as three different and parallel management systems. Therefore, an IMS should integrate all currently, formalized systems that are focused merely on quality, health, and safety, environment, human resources, finance, etc. In the integrated approach, daily work means not only the correct management of plants but also the safety management of hazardous materials and the correct waste management, including products that are not useful at the end of their life cycle. The relationship between strategy and integrated business model is emerging as a potential mechanism to integrate sustainability into the business (Schaltegger et al., 2012; Jolink & Niesten, 2015).

An integrated management system includes all the systems and processes of an organization into a single complete framework, allowing a company to operate as a single unit with unified objectives for optimal management with simplest operations. Organizations often focus on management systems individually, hierarchically and sometimes even in conflict; this is due to the fact that the top management deals with the quality management system (QMS), often environmental health and safety manager (EHS) manages both environmental and health and safety issues, with consequent functions overlapping. As suggest by Väyrynen et al. (2015) separate management systems that cover quality, environmental, and safety and health issues have become too complex to manage effectively. Kriaa et al. (2015) proposed an integrated approach that consists of applying separate risk analysis process for safety and security for the purpose requirements, in order to analyze and identify interactions between the different system management requirements; thus to reduce the resolution of conflicts and inconsistencies enables practitioners to identify changes and measures to be implemented and evaluate their effects.

As suggested by Fresner and Engelhardt (2004), the idea of an integrated management system is to create a single and separate management system, for example by combining the provisions of ISO 9001, OHSAS 18001, and ISO 14001, EU Eco-Management and Audit Scheme Regulation (EMAS) or the others standard. The latter proposal is linked to the fact that, although they were born with different objectives, these standards, and their management systems, have many common points. Management systems for safety process, safety and health occupational, environment, quality, and safety may have developed separately, despite they have similar expectations related to programs, such as implementation with specific program requirements, record keeping and metrics used to demonstrate program performance improvements. Despite the common base, IMS cannot be understood as simply adding existing systems that have been structured by experts. The primary starting point is, in fact, a path analysis of core business processes. As part of the company's policies, the integrated management system can be considered as one of the fundamental management tools for the pursuit of long-term corporate sustainability.

Analyzing the literature, it is clear the contact points between IMS and corporate sustainability that represent strongly connected and correlated concepts. This link is particularly evident in Asif et al. (2011), which highlight how integrated management was born, originally, as the result of stakeholders' pressure and legal requests. Sustainability innovations require more integrated thinking and the reconfiguration of several business aspects such as capabilities, stakeholder relationships, knowledge management, leadership and culture (Evans et al., 2017). Schaltegger et al. (2012) reflect on integrated sustainability innovations as those envisaged to make real and substantial improvements by developing better production processes, products and services, and by exercising large market influence.

The starting point of the integrated approach consists in the identification of the elements could support long-term corporate sustainability; the latter

can be defined as the result of three main dimensions: social, environmental and economic. Over the years the long-term sustainable development approach has too often gone by a process of strategic planning and implementation that took into account only the aspects related to the economic dimension, in terms of costs, and only afterwards the environmental aspects, related to forecasts of a legal nature; the latter, in the sustainable development, following the integral approach, is configured for the company as a virtuous path whose focal points can be represented by this three strategic dimensions (Fresner & Engelhardt, 2004). The link between integrated views and long-term sustainability of a company thus allows to better understand the social dimension pressures and needs. The social dimension must be seen in the double perspective of external relations, on the one hand, which company supports with all the stakeholders (suppliers, customers, local communities, shareholders, etc.), and on the other hand, it can also be contextualized within the company perimeter to understand needs and objectives that must be achieved referring to the human resources employed. The integrated approach thus forms the basis for continuous improvement of product quality, relationships, communication, and systems.

In the current global competitive context, characterized by increasing complexity level, companies are required to increase their flexibility in analyzing environmental priorities and challenges in order to create consistency with business objectives and strategies that can better adapt to them. As argued by Mitchell et al. (1997) the dynamism of sustainability concept requires organizations to better address emerging issues with their abilities.

Starting from the difficulties that emerged from the best management of the new market's challenges, there were numerous designs of managerial systems that try to create a proactive process to support business decision-makers. Elements such as the responsiveness and problem identification turned out to be the key elements of these systems; in this view, however, the elaborations were characterized by a fragmented approach, i.e. concentrated only on single aspects and dimensions of the company's problems. In this period the elaboration of management models was based solely on the increasing the stakeholders needs the company corporate social responsibility (CSR), or even the safety management systems, the healthiness of workplaces and the environmental protection. Thus identified, these MSs have had the merit of allowing the first form of possible integration towards long-term sustainability, leaving ample spaces for improvement in the consideration of a holistic view of the phenomenon.

The literature on the issue of corporate sustainability has always been very wide and varied. From Freeman's (1984) approach, it emerges that sustainability is the result of a set of pressures coming from stakeholders and other interest groups, thus becoming a phenomenon that is purely exogenous to the company. As highlighted by Seuring and Muller (2008) recently the concept of sustainability has taken on a wider dimension, also involving environmental and safety issues in the workplace; this requires that the dimensions of the corporate strategy take into consideration the whole environment in which the company operates (Hart, 1997). However, it should be stressed that there is a lack of clarity, conceptual consensus, and consistency in the use of the terms "business model", "business model innovation" and "sustainable business models", especially if related to the concept of management system integrated (Boons & Lüdeke-Freund, 2013); from the definitional difficult there is a lack of established theoretical foundations in economics or commercial studies since there is no general agreement on the characterization, classification, and boundaries of these concepts (Spieth et al., 2014) which translate into dispersion of perspectives and slow significantly and even hinder progress in these fields and the adoption of IMS. The lack of theoretical foundations is also reflected in the low number of case studies and empirical analyzes in the field.

Meanwhile, the various risk assessment methods have been developed integrate safety and security, and these could help to address the corresponding threats by implementing suitable risk treatment plans (Chocklingam et al., 2017). However, an overarching overview of these methods, systematizing the characteristics of such methods, is missing, so the IMS could support this process and support all the management decisions.

The holistic view to sustainability, therefore, requires that all positive and negative aspects of the activities be explicitly considered; this conception has been expressed in literature through the 3P, i.e. profit, planet, and people (Elkington, 1994). This implies that a company creates more value over the long run and encounters fewer risks compared to a company that focuses merely on the profit (Asif et al., 2011; Salzmann et al., 2005; Dyllick & Hockerts, 2002). From this point of view, the concept of corporate sustainability takes characteristics of strong dynamism. The challenges coming from the environmental, economic and social aspects constantly place new changes that the company's top management faces with the need of new tools and processes. This dynamism is, in fact, determined essentially by environmental factors, both internal and external, which have a significant impact on company resources (materials, economic and human). Therefore, the management and integration of this dynamism require company decision-makers to lay the foundations for a highly flexible system capable of promptly adapting to the new needs produced in the various business areas units (SBU). In identification and management of these changes, the support from the IMS plays a fundamental role as they are capable to simultaneously take the different aspects of analysis faced through timely and effective data analysis.

There is, nevertheless, a need to explore how organizations can capitalize their experience with UE member states and analyzed sustainability and their sustainability system model. Among the latter, could be cited the Global Reporting Initiative (GRI), provides a recommended framework for organizations interested in reporting on their sustainability performance (GRI, 2006). GRI helps businesses and governments worldwide understand and communicate their impact on critical sustainability issues such as climate change, human rights, governance, and social well-being.

The underlying problem will be characterized by identifying how the key concepts and requirements of sustainability can be translated into operational terms in business management. This problem is even more evident in the context of Small and Medium Enterprises (SMEs) characterized by the

presence of limited endogenous resources (economic, human, etc.).

The need for new tools available for SMEs has also emerged at the European level through the European Commission's desire to increase the level of innovation performance through the mastering of innovation management, the implementation of integrated innovation frameworks and promotion of skills for innovation and competitiveness, with special attention to small enterprises (European Commission, 2008). For SMEs managing the entire innovation process requires a clear innovation strategy, an organizational culture that supports innovation, and innovation activities that ensure that the right ideas are developed efficiently, so IMS could support this process.

3. THE RELATIONSHIP BETWEEN CORPORATE VALUE MANAGEMENT, IMS AND MEASUREMENT AND ASSESSMENT TOOLS IN THE PERSPECTIVE OF CORPORATE SUSTAINABILITY

Once the process of definition and creation of corporate value has been analyzed with a view to long-term sustainability, it is clear that the next step is the definition of the operational tools that the strategic top management must have in order to operate in the perspective of continuous improvement. Despite the definitive and operational difficulty of the sustainability concept defining, it is clear that the evaluation of the corporate value reflects this complexity. The main reasons that can negatively affect the identification of purely quantitative measures of value can be multiple:

– The increase of social pressures on corporate behaviour; as a result of the change in the economic and social context, companies are required to be more able to adapt and satisfy economic, social and environmental pressures. The consideration of these factors has a decisive influence on the processes of estimation of uncertain values.

– The existence of trade-offs between short and long-term objectives; this distinction involves a global assessment of all the aspects that may have a negative impact on the long-term sustainability of the company, but at the same time most of the decisions incur in a daily short-term assessment.

– The misalignment between managerial logic and the concept of sustainable development of enterprise; often the evaluation and goal assignment systems reflect reward systems based on specific objective parameters rather than on larger scopes with long-term evaluations and connection.

– The presence of systemic risk to which the company is currently facing; although the risk is the fundamental component that distinguishes any business activity, the recent global financial crises have highlighted the presence of strong interconnected between systemic risks and the various company systems regardless of the operating sector.

These factors must be constantly taken into account in establishing the system for evaluation and improvement of company performance. Only an adequate measurement system of these value drivers can allow a complete exploitation of long-term sustainability.

For the reasons described above, top management needs a performance measurement system and management systems that take into account the different perspectives of corporate stakeholders: 1) external, include all parties who have a direct or indirect interest in the entrepreneurial system and in its performance control (shareholders, creditors, debtors, local communities, municipalities, etc.); 2) internal, concerns the different enterprise actors divided into the different levels of the company (operators, collaborators, managers, staff, etc.).

The value of a particular investment project for the company generally tends to be based on the current level of return rather than on the positive impact it may have in the long run. The decision to invest in short-term high-yield projects by managers reflects the need to have cash flows to offset the uncertainty in the operative market; in this way, it will be possible to guarantee a return of capital towards for shareholder. Other reasons that may justify such choices could be connected with the opportunity to exploit the high return on investment compared to the market average or the fear of undertaking long-term investments following negative forecasts on the economic situation. Naturally, this misalignment between managerial decisions related to short-term preferences over the long term has a decisive impact on future prospects of business value creation. In the case of big companies, this could lead to a change in decision-making or in top management by the shareholder, or the sale of the shares held by them on market, with a fall in the company profitability and the related effects on market shares value. The same phenomenon observed in the context of SMEs, however, could irreparably and permanently compromises the long-term sustainability of the company; in this regard, SMEs lose both national and international competitiveness, lacking potentiality and value drivers capable of generating new income and profit for company system.

As part of continuous improvement and optimal resources management plays a vital role in the establishment of a measurement and performance system that allows decision making to have constant flows of information and the related implications of the decisions to be taken. The performance measurement system (PMS) must also be able to provide clear and functional incentives for all those who collaborate with the company. Enterprises and business must always be considered as social phenomena characterized by interactions between people; a PMSs should then be able to respond to the needs, expressed and/or latent, of all those who directly or indirectly collaborate with company, also in the identification of the most appropriate rewarding systems (Arnaboldi et al., 2015).

4. THE ANALYSIS OF IMS IN THE BUSINESS CONTEXT IN A THEORETICAL-EMPIRICAL PERSPECTIVE

As mentioned previously, the implementation of an integrated management system requires that all the different components highlighted be logically connected and managed together. The sum of procedures coming from the different management systems in a single document cannot be equivalent to a process of integration; the real integration process requires that all the individual and collective components of an organization are part of a coherent and unitary system, following the holistic perspective. For this reason, the choice of integration necessarily starts from the analysis of the common aspects of the different management

systems (quality, safety and health, environment, corporate social responsibility). The underlying objective must therefore be the achieving of company's goals within the general framework of integrated management but, at the same time, the effective and efficient pursuit of daily decisions.

Several standards have been developed to help companies in their effort to improve the sustainability of their systems and products. However, implementing several standards simultaneously and independently can be costly.

For this reason, the integrated logic requires that common elements are identified within the various management systems. As identified in the ISO guidelines some of the main transversal areas, common to all managerial systems, can be classified in: 1) policy; 2) planning; 3) implementation and operation; 4) performance assessment; 5) improvement; 6) management review process. These areas and dimensions of intervention reflect the application and the scope of Deming cycle approach, which is also used in the drafting of the various standards by the technical committee in the international standard setter publications.

Within the integrated management systems, one of the key points could be the voluntary adoption by companies of the requirements set by the ISO 9001 and ISO 9004 standards, which together form the basis of a quality management system (QMS); other components towards the adoption of an integrated vision could be the compliance with the standards: ISO 14001 and/or EMAS Regulation as a form of environmental protection, SA8000 on CSR issue and HOSAS 18001 or ISO 45001 for the occupational health and safety protection of workplaces.

The new challenges facing the entrepreneurial systems relate to the ability / need to work with the multidimensional nature of the integration strategy. Currently, the absence of a specific reference standard that allows the transition from the separate management perspective to the integrated one derives from the fact that this is entrusted to the experience of the various operators who have assimilated and adopted the values of the integrated logic. Overcoming the economic management logic towards a process of integration of the multidimensional aspects is now an "irreversible process"; this means that IMS and the sustainable resource management can be said to be one of the major challenges of our time. From this derives the fact that entrepreneurial systems, and in particular SMEs, must acquire an adequate knowledge on the subject, so as not to compromise competitiveness on world markets, as well as the inability to respond adequately to the questions coming from internal market (Thione, 2004).

The latter aspect is also confirmed by the analysis of the certifications number obtained by the companies, as shown in Table 1.

Table 1. Number of certification 2015-2016

	Number of certification*		***Changes***	
Standard	*2015*	*2016*	*Δ*	*Δ%*
ISO 9001	1.034.180	1.106.356	72.176	+ 7 %
ISO 14001	319.496	346.189	26.693	+ 69 %
ISO 50001	11.985	20.126	8.141	+ 7 %
ISO 22000	32.061	32.139	78	+ 0,24 %
ISO 27001	27.536	33.290	5.754	+ 21 %
OHSAS 18001	12.640	14.052	1.412	+ 11 %
ISO 28000	-	356	-	-
Total	**1.437.898**	**1.552.508**	**114.254**	**+ 8 %**

**Note: Accredited certifications are those that have been independently evaluated in Europe by accreditation body members of the IAF, the world association of conformity assessment accreditation bodies.*

Source: Authors elaboration on: ISO, The ISO Survey of Management System Standard Certifications 2016.

From the analysis of the data contained in Table 1 it is possible to understand how we have taken into consideration the number of certifications to the international standards most relevant to the integrated logic. Another fundamental aspect is the constant growth of the certification phenomenon, which recorded a significant increase during the two-year period 2015-2016 with a positive figure of around + 8%. At this time, it was noticed that companies increase the number of the certification registered. So it is possible to conclude as the IMS adoption was constantly increasing. One goal of this data collection was to identify overlapping methods and practices due to the adoption of international standards, however, some of the standards were not in wide usage and they were used by different industry sector. Thus, overlapping practices and procedure were not common although different departments practiced similar kinds of activities. The result shows as companies have also grown globally which increases IMS demands, and a renewed HSEQ management is required; at the same time, regulations emphasize the need for high quality and equal management system. The integrated management system includes the recording of environmental, social and work environment factors by companies of all sizes within the supply chain.

The choice to take into consideration only a subset of standard derives precisely from the close relevance and contribution that each of these can make to the IMS. In detail, we point out that ISO 28000: 2007 has been taken as a reference to observe how the specifications for the security management system for the supply chain have been positively affirmed. The data on ISO 50001 standard was inserted to show how energy management is, together with the ISO 14001 standard, the main tool and instrument through which companies seek to reduce their environmental footprint. The other standards included are characterized precisely by the close correlation that they have in the creation of management systems aimed at the quality (ISO 90001) and the safety and health of workplaces (ISO 22000 for food safety and OHSAS 18001).

In this view, it can focus on customer satisfaction, which is the main notion of "traditional quality assurance", without simultaneously addressing the financial, operational, societal and other aspects of performance, is no longer sufficient. Thus, organizations aiming at comprehensive performance excellence have implemented a system based on IMS, which contain

elements for quality assurance; in this perspective, a customer is not the only party to satisfy or deliver excellence to. A typical company must also satisfy the needs of the community, employees, investors, shareholders and other stakeholders. This multiplication of interested parties resulted in the proliferation of stakeholder specific standard, to address their diverse needs (Marinello & Dinicolò, 2018).

5. CONCLUSIONS

The number of companies that decided to adopt an integrated logic within their management systems has certainly grown considerably in recent years as a result of the pressures coming from the markets and the needs expressed and unexpressed by customers. We began with the supposition that a traditional management system approach to organizational change while exploring opportunities of innovative IMS approach and their applications were both feasible and desirable. IMS aim to establish a concrete guide for firms and decision maker to set a structured process which organization would systematically implement. The proof of this aspect can be made dependent on the growing number of companies that require and obtain certifications of their management systems; many states have started a drafting process of a specific standard of integration, also anticipating the international standard setters. This paper has tried to highlight the spontaneity with the integration process has evolved and expanded over the last years; nonetheless, the critical issues concerning: economic sector, company structure, ownership, size, geographical position, which still play a fundamental role in the integration choice, that must be emphasized and remarketed.

A positive aspect in this regard is that the certification of the environmental management system is often considered more significant, for the credibility of organization's commitment to allocate quality into the market compared to the possession of an ISO 9000 certification. Similar considerations could be applied to aspects related to ethical and social approach. We began with the supposition that an integrated approach to organizational change while exploring opportunities for innovative IT applications was both feasible and desirable.

Ultimately it is possible to assert that an organization which is responsible for environmental management, that guarantees health and safety at work and that takes care of all the problems related with the social dimension as well as the economic approach to quality, is necessarily led to research and implement the best technologies applicable to its processes. It is stressed as this study has potential limits. The estimates of the potential effects of the hypothesized in the model are based on observational studies of a prospective and meta-data type. They are therefore subject to prejudices and confusions that may have influenced the primary conclusions reached. However, the etiological effects of changes in managerial systems are also consistent with previous studies in the literature. A further limitation regards the general absence of a large number of empirical studies on the subject as well as the limited time horizon taken into consideration. In conclusion, our results suggest that the beneficial effects deriving from the integrated management systems must, however, be further investigated in future studies that examine a huge period of time as well as a dataset consisting of a number of certifications and companies wider; in this sense, future research developments could point towards the implementation of an econometric model that seeks to find the functional connections between the variables that determine the choice of IMS. Therefore, it is possible to conclude that the "integrated" approach to quality can usefully contribute to boosting innovation for process and product, which the national production system is in great need today. In this sense, future research developments will have to take into consideration the construction of a heterogeneous companies sample in which analyzing the push factors and the obstacles to the adoption of IMS, trying to derive the functional links between them.

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